

FIG. 1

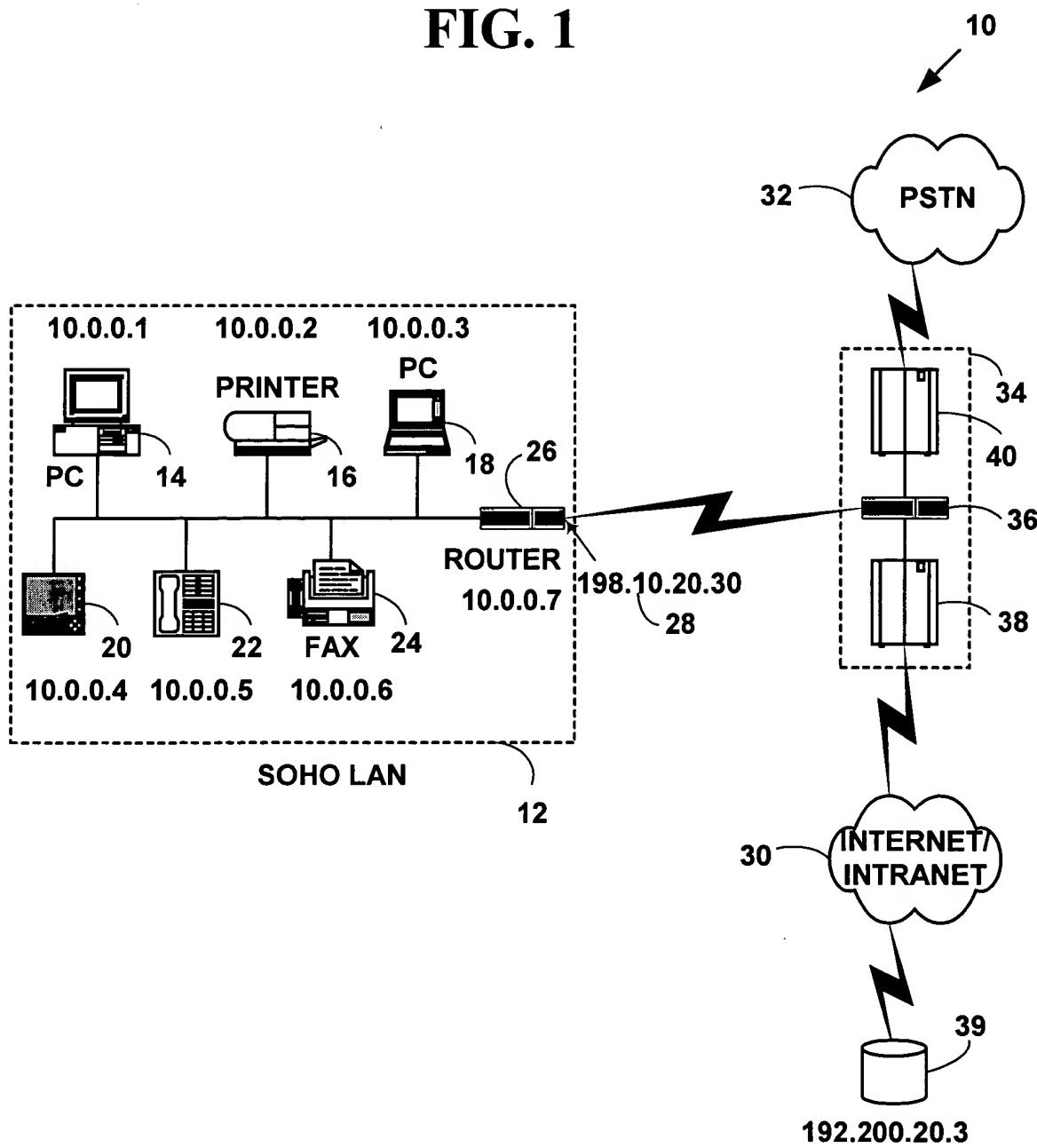


FIG. 2  
PROTOCOL STACK

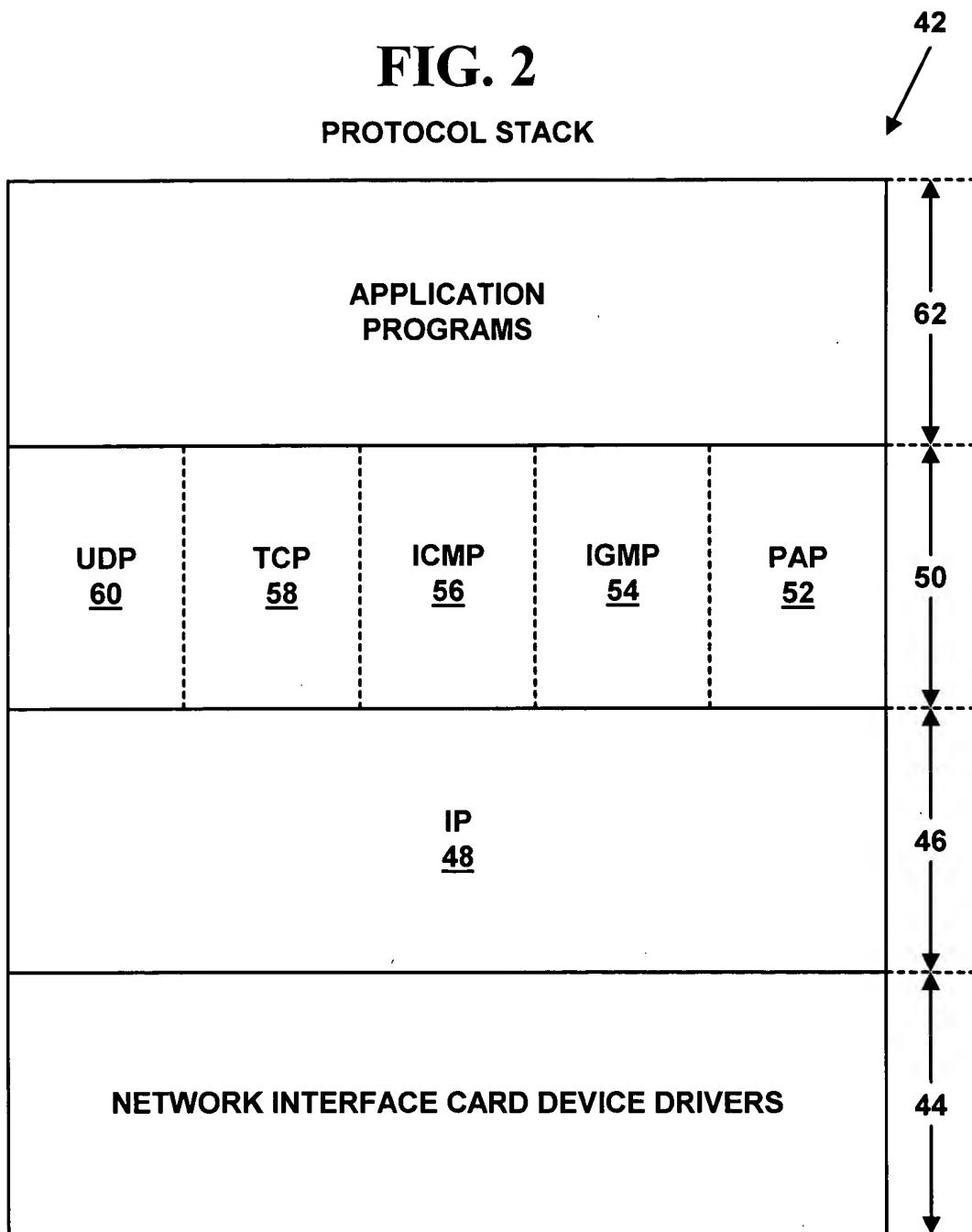


FIG. 3

PORT ALLOCATION PROTOCOL (PAP)

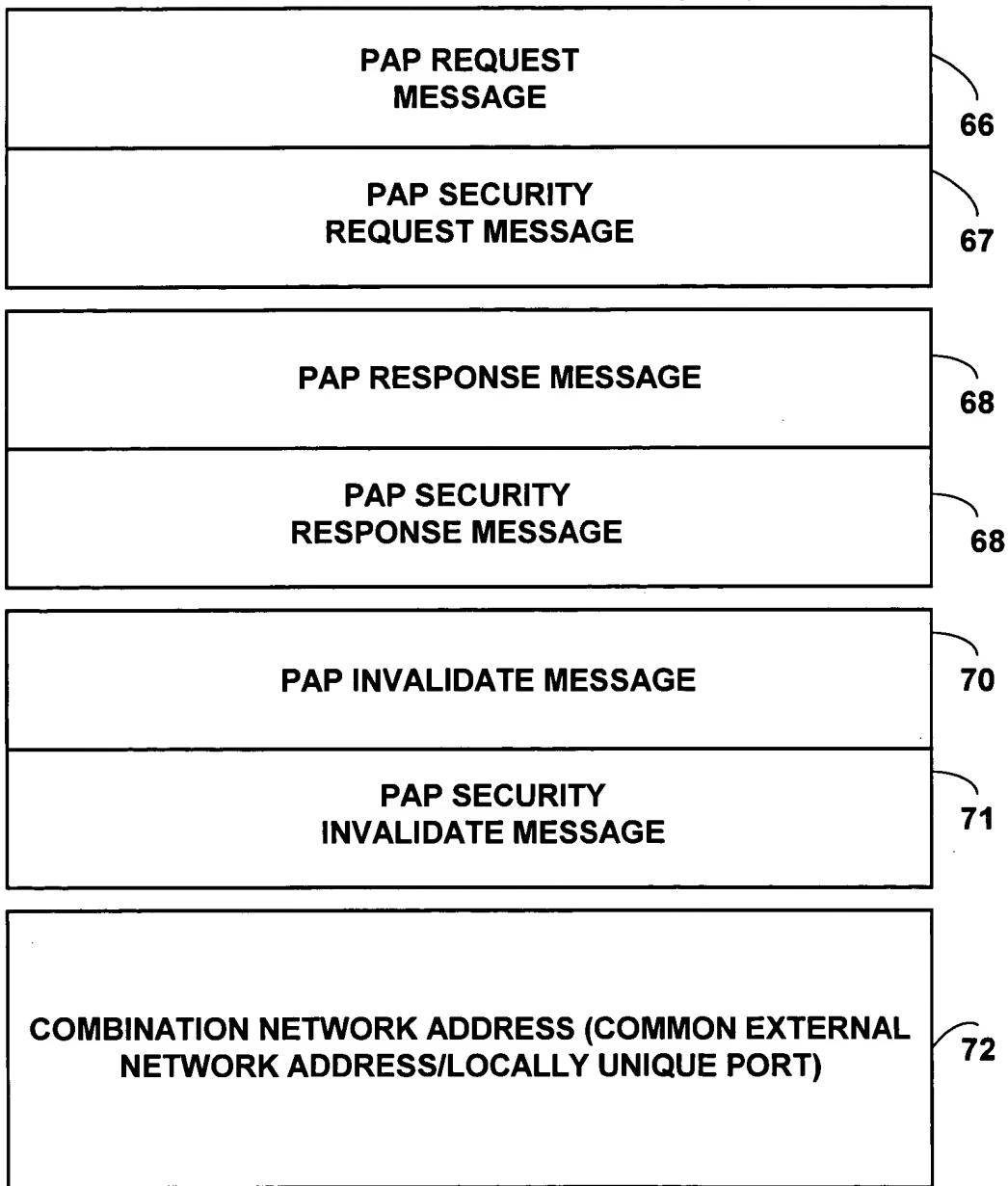


FIG. 4

PAP REQUEST MESSAGE LAYOUT

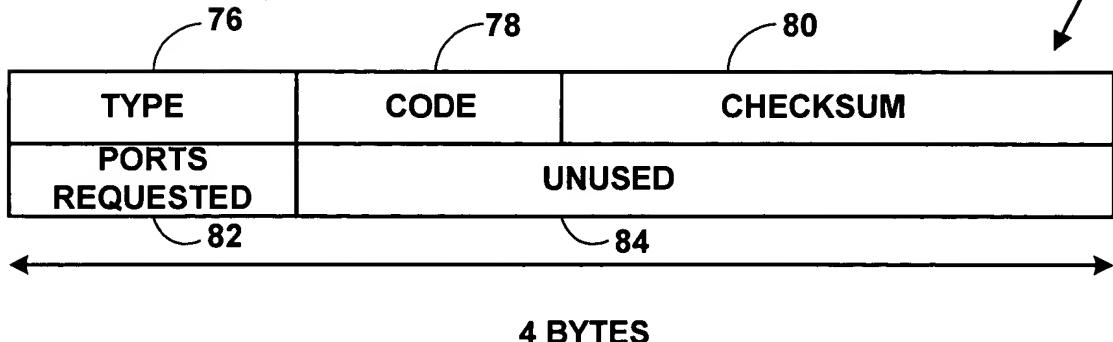


FIG. 5

PAP RESPONSE MESSAGE LAYOUT

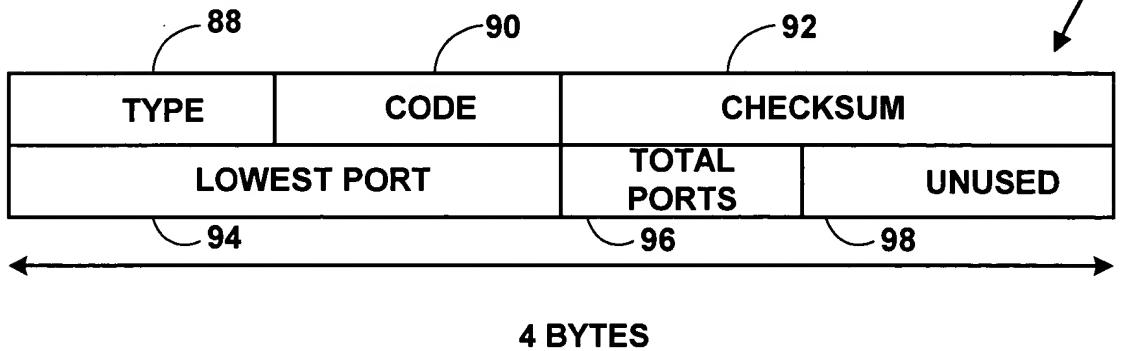


FIG. 6

PAP INVALIDATE MESSAGE LAYOUT

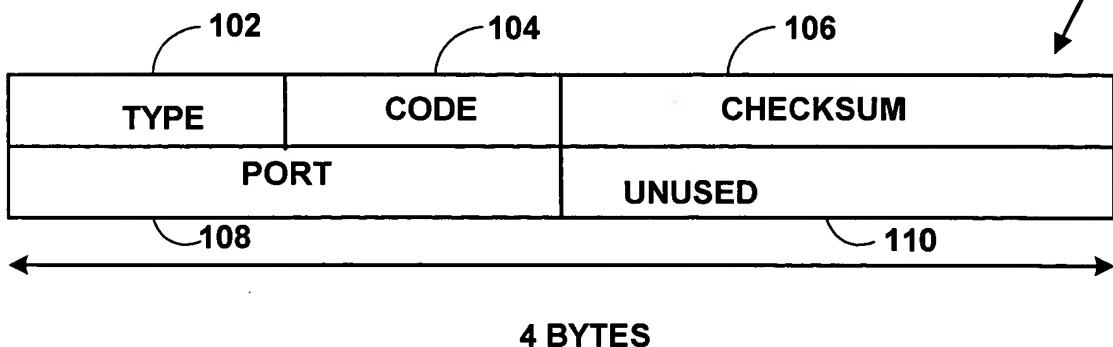


FIG. 7

114 COMBINATION NETWORK ADDRESS

EXTERNAL NETWORK ADDRESS (E.G., EXTERNAL IP ADDRESS)	LOCALLY UNIQUE PORT
198.10.20.30	1032

112

116

FIG. 8

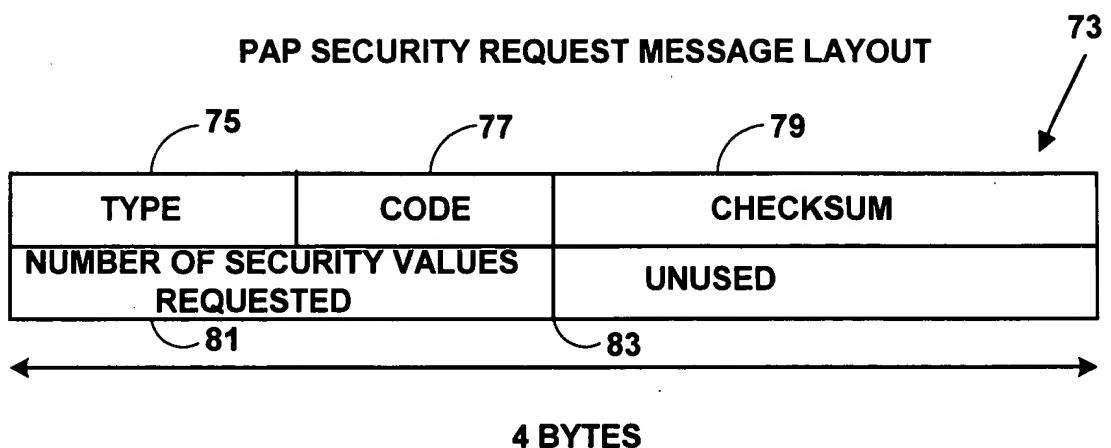
INTERNAL NETWORK ADDRESS	LOWEST PORT	NUMBER OF PORTS	
10.0.0.1	1026	32	126
10.0.0.3	1058	16	128

118

PORT-TO-INTERNAL-NETWORK  
ADDRESS TABLE

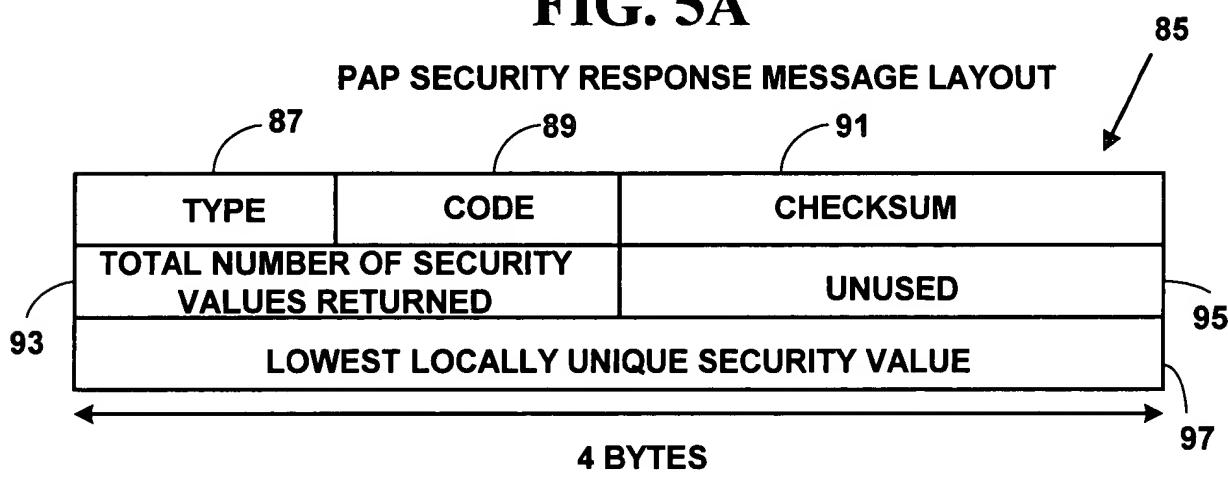
## FIG. 4A

### PAP SECURITY REQUEST MESSAGE LAYOUT



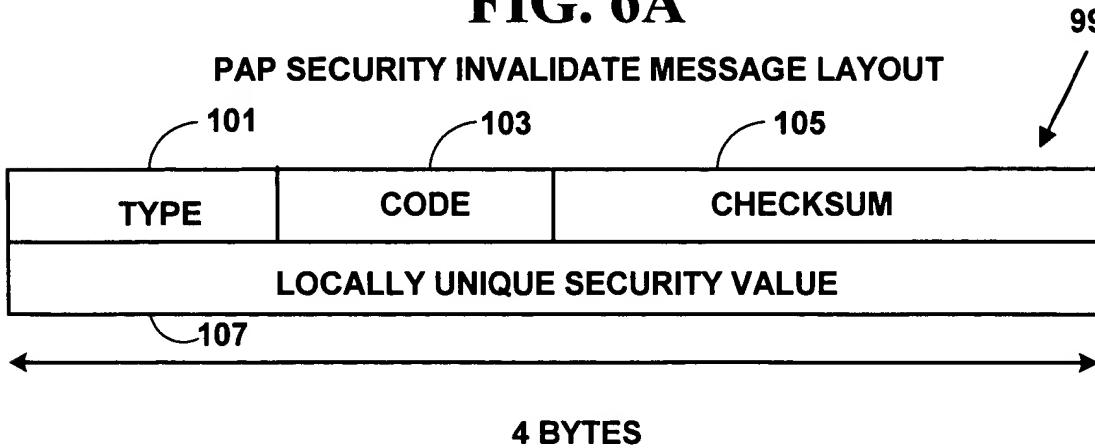
## FIG. 5A

### PAP SECURITY RESPONSE MESSAGE LAYOUT

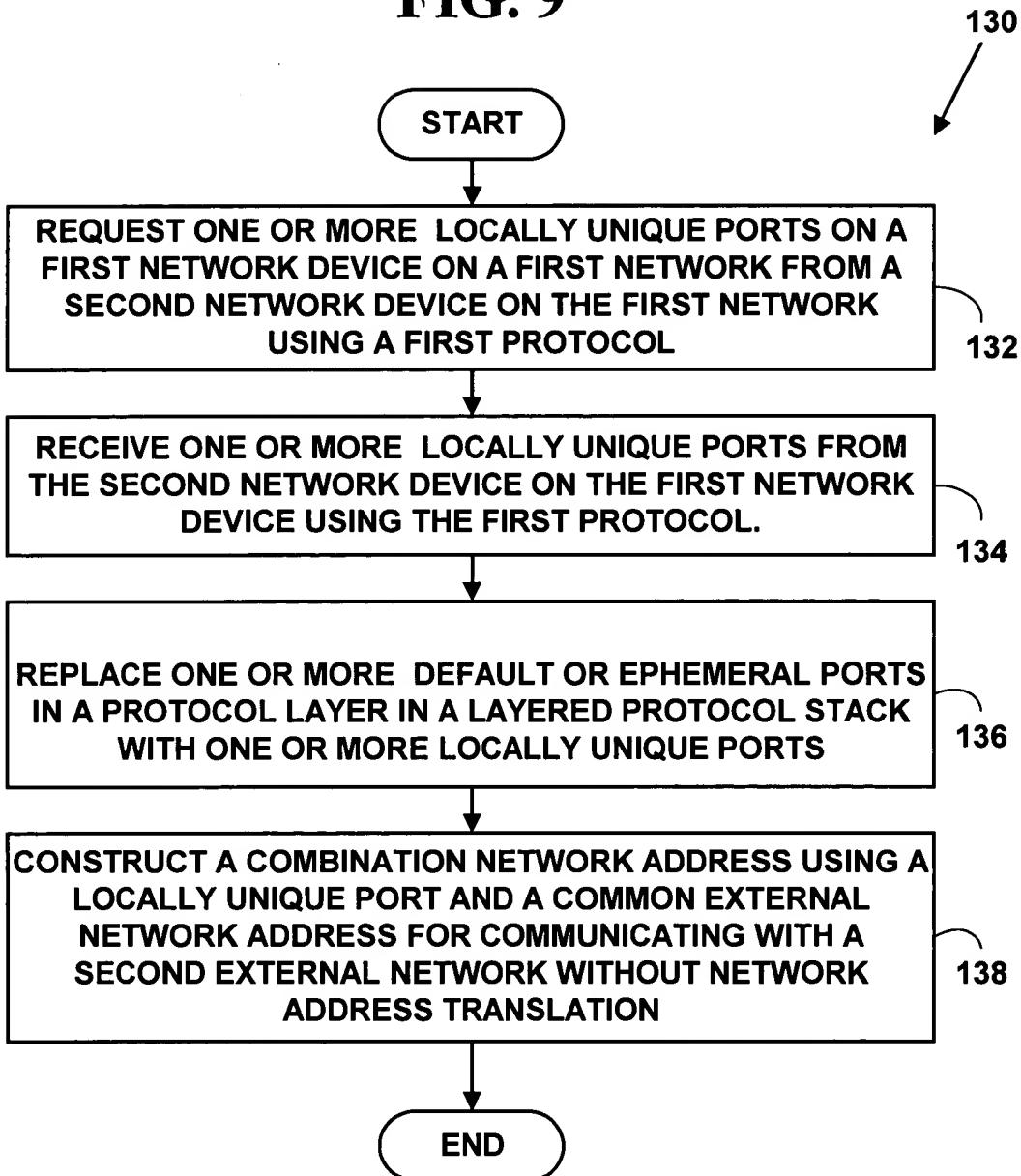


## FIG. 6A

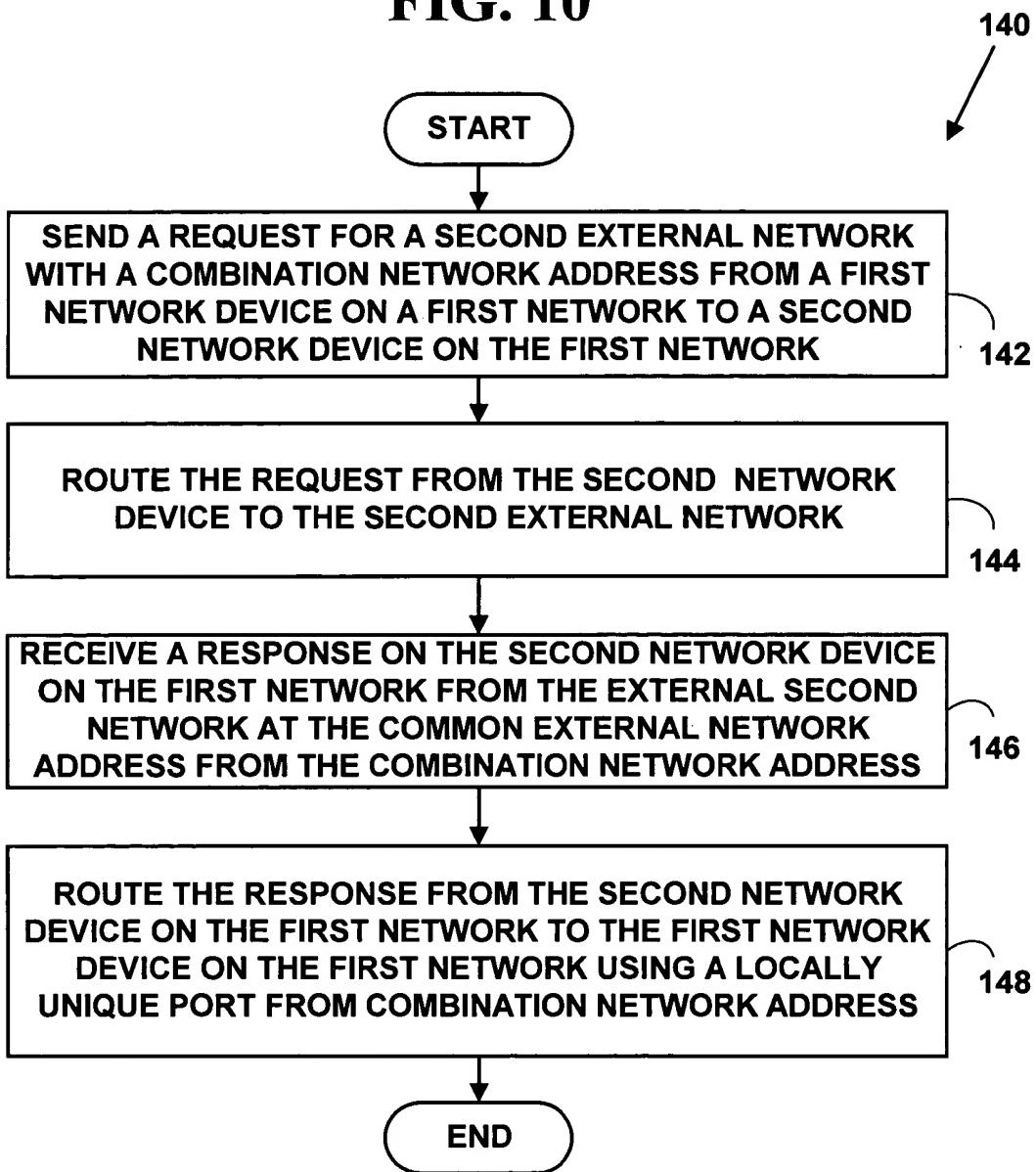
### PAP SECURITY INVALIDATE MESSAGE LAYOUT



**FIG. 9**



**FIG. 10**



**FIG. 11**  
SOURCE PORT TRANSLATION TABLE  
(SPTT)

DEFAULT PORT	TRANSLATED PORT
PROTOCOL	TIMESTAMP
152	154

150  
156  
158

**FIG. 12**  
IP ADDRESS TRANSLATION TABLE  
(IPATT)

DESTINATION PORT	INTERNAL DESTINATION IP ADDRESS
PROTOCOL	TIMESTAMP
162	164

160  
166  
168

FIG. 13

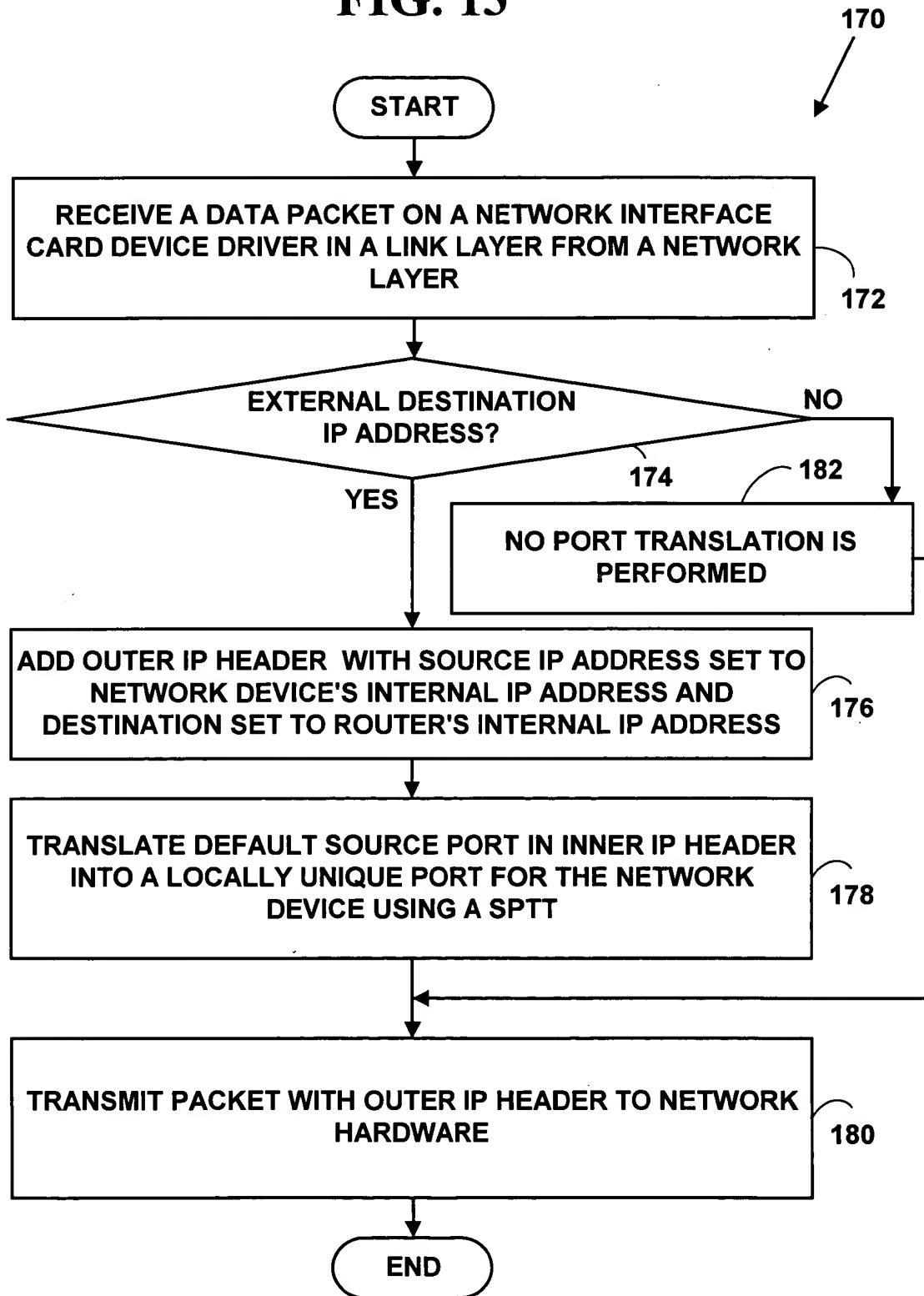


FIG. 14

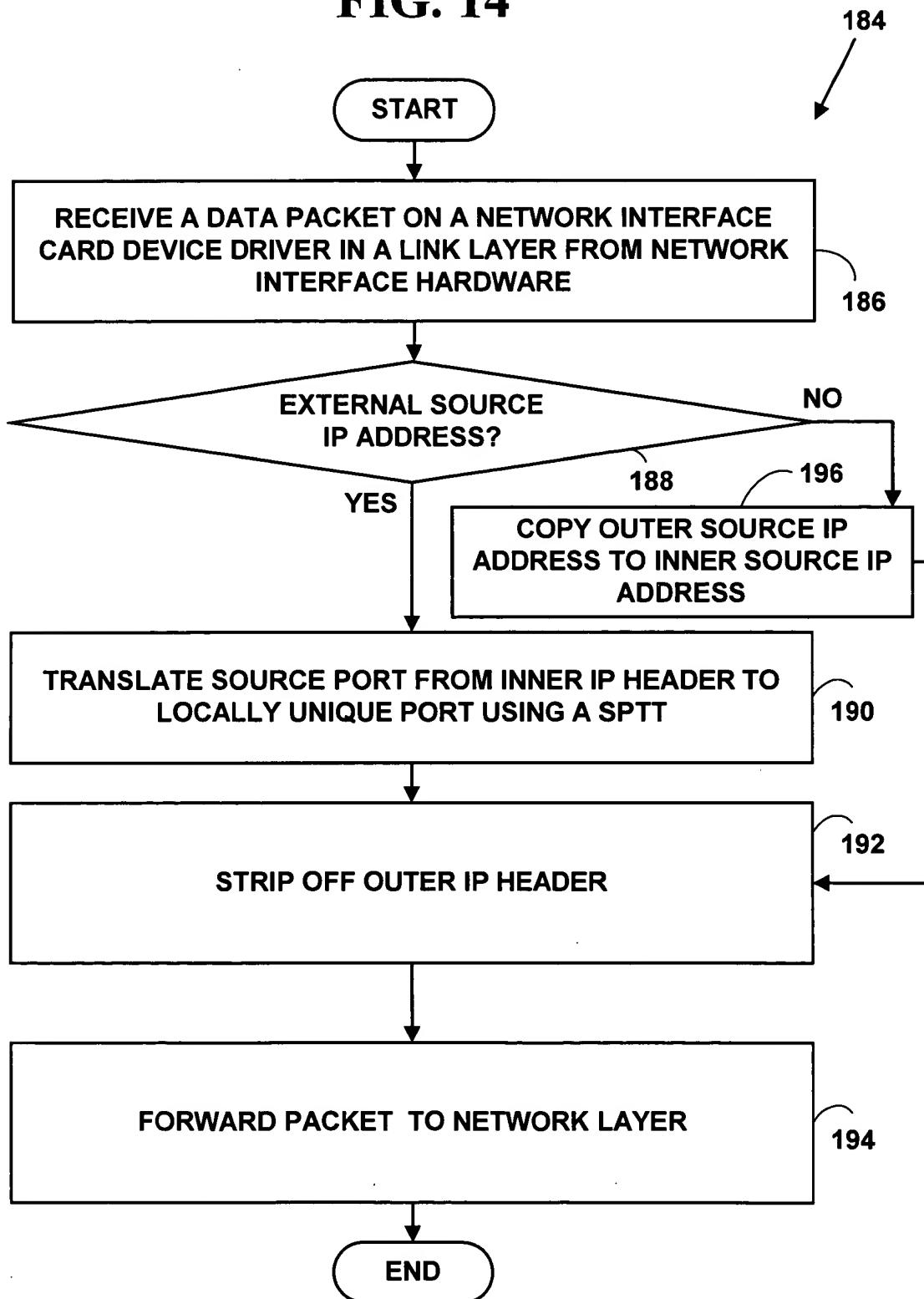


FIG. 15

200

IP HEADER FORMAT

VER <u>202</u>	IHL <u>204</u>	TOS <u>206</u>	TOTAL LENGTH <u>208</u>
IDENTIFICATION <u>210</u>		FRAGMENT OFFSET <u>212</u>	
TIME-TO-LIVE <u>214</u>		PROTOCOL <u>216</u>	HEADER CHECKSUM <u>218</u>
SOURCE ADDRESS <u>220</u>			
DESTINATION ADDRESS <u>222</u>			
OPTIONS <u>224</u>			

# FIG. 16

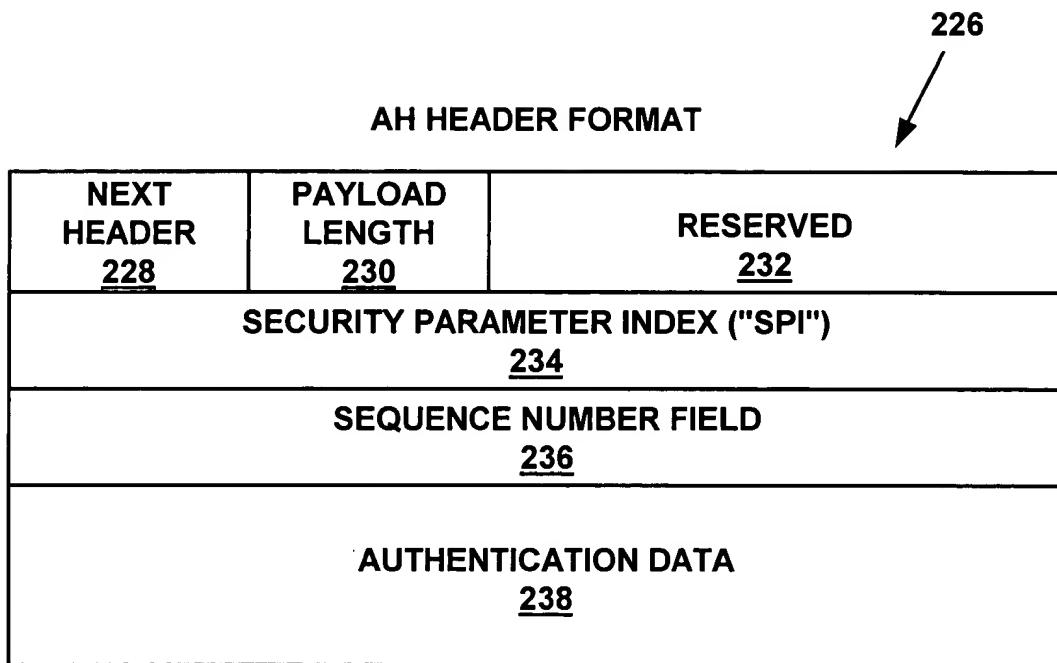


FIG. 17

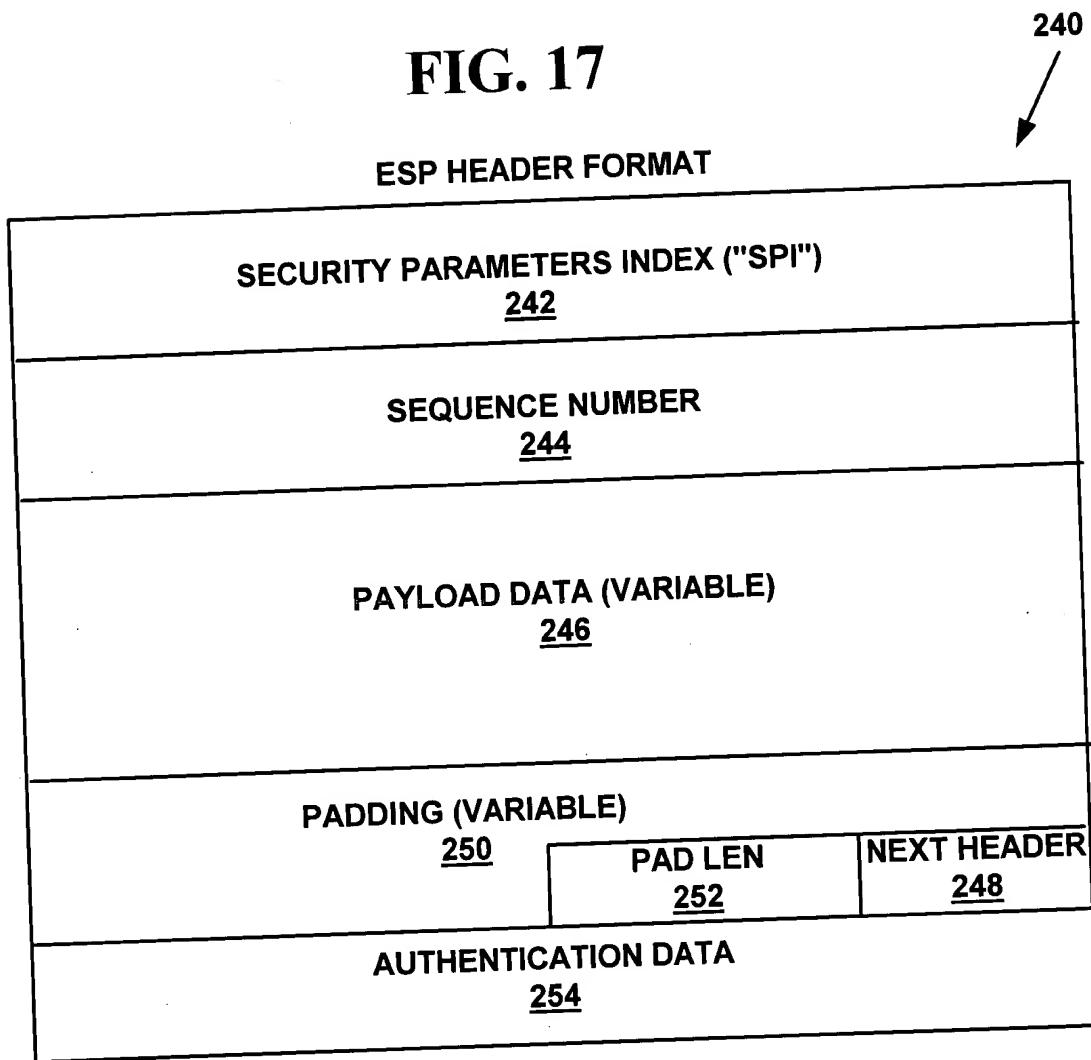
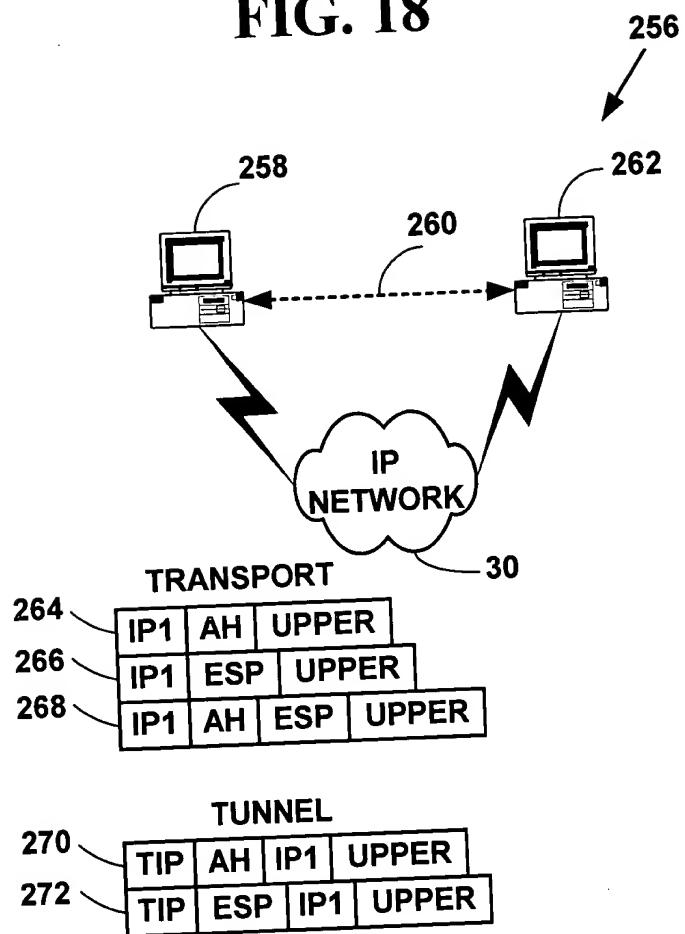


FIG. 18



**FIG. 19**

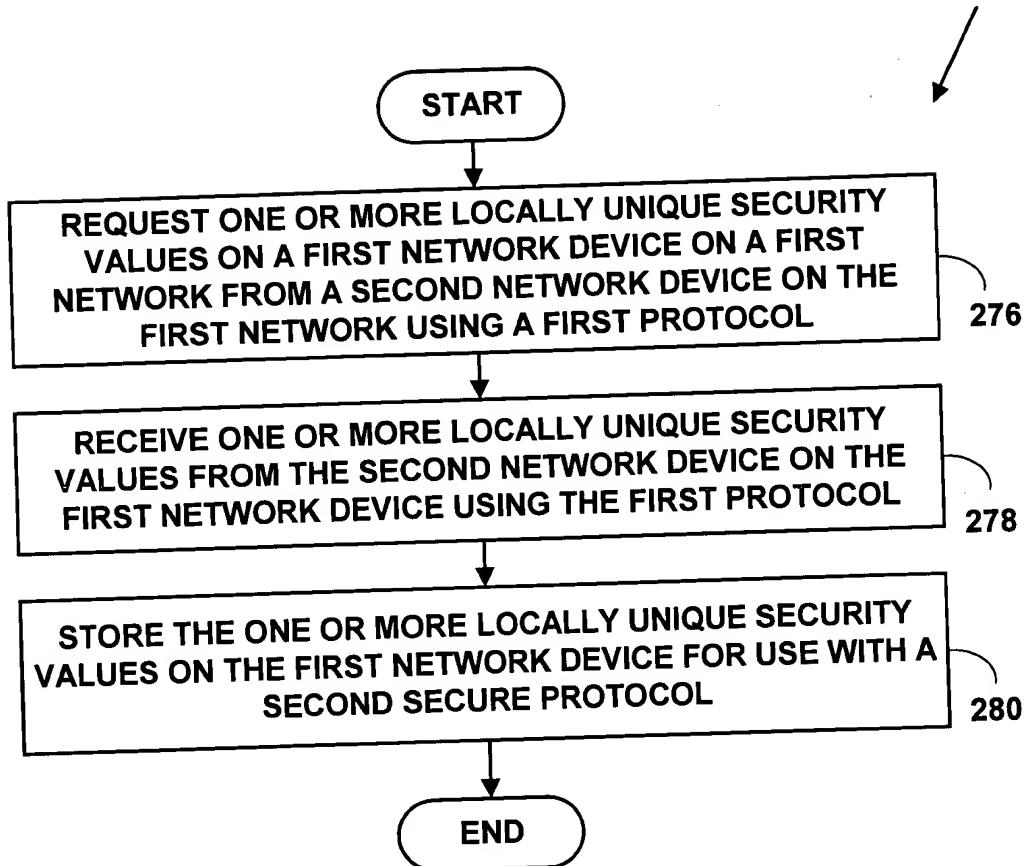
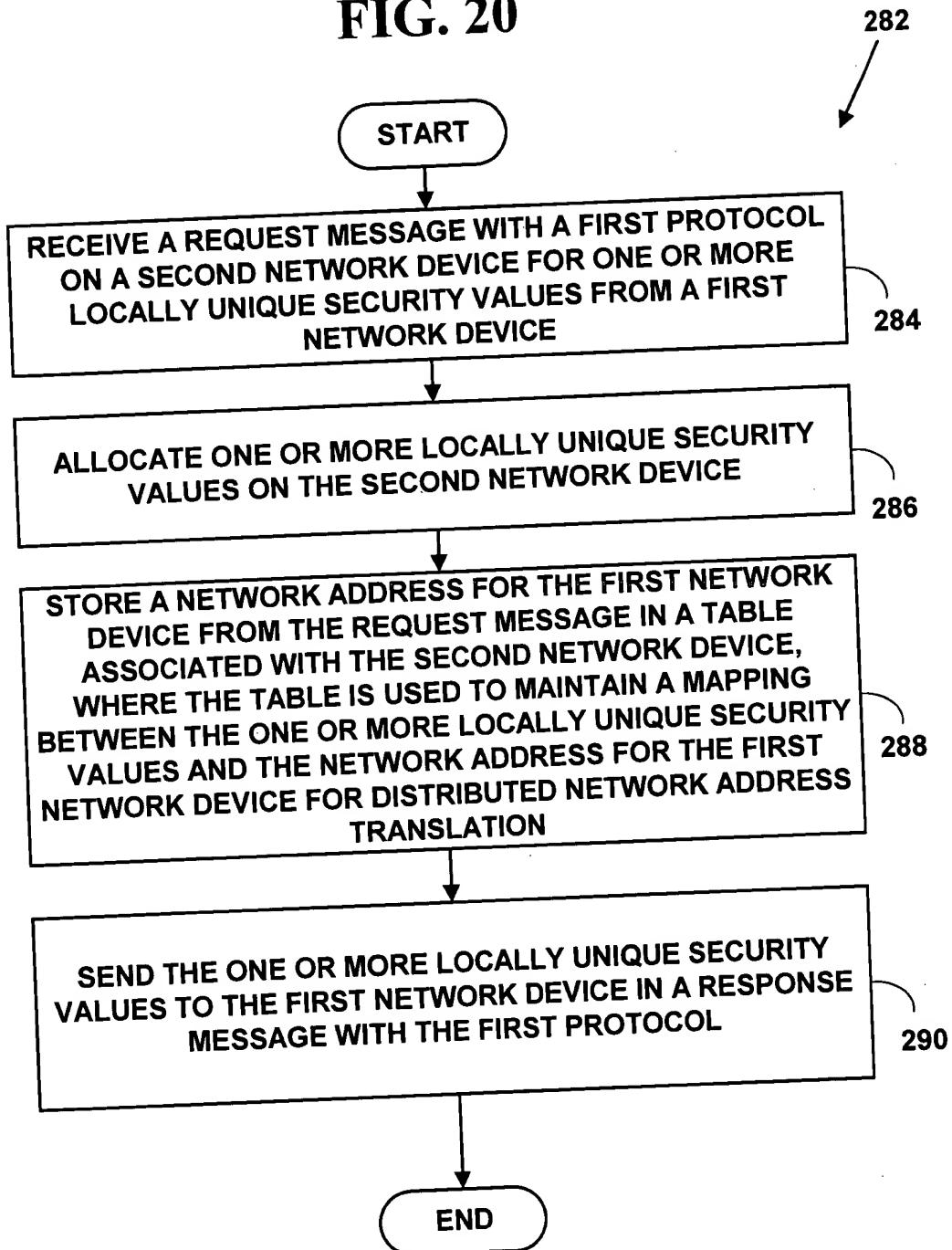


FIG. 20



**FIG. 21**

The diagram shows a table with three columns: INTERNAL NETWORK ADDRESS, LOWEST SPI, and NUMBER OF SPIs. The table has two rows. The first row contains the values 10.0.0.1, 280, and 32. The second row contains the values 10.0.0.3, 312, and 16. To the left of the table, a horizontal double-headed arrow spans the width of the first two columns and is labeled 294. Above the table, a horizontal double-headed arrow spans the width of all three columns and is labeled 292. To the right of the table, a vertical double-headed arrow spans the height of the two rows and is labeled 298. To the right of the last column, there are two vertical double-headed arrows: one labeled 300 pointing upwards and one labeled 302 pointing downwards.

INTERNAL NETWORK ADDRESS	LOWEST SPI	NUMBER OF SPIs
10.0.0.1	280	32
10.0.0.3	312	16

**SPI-TO-INTERNAL-NETWORK ADDRESS TABLE**

FIG. 22

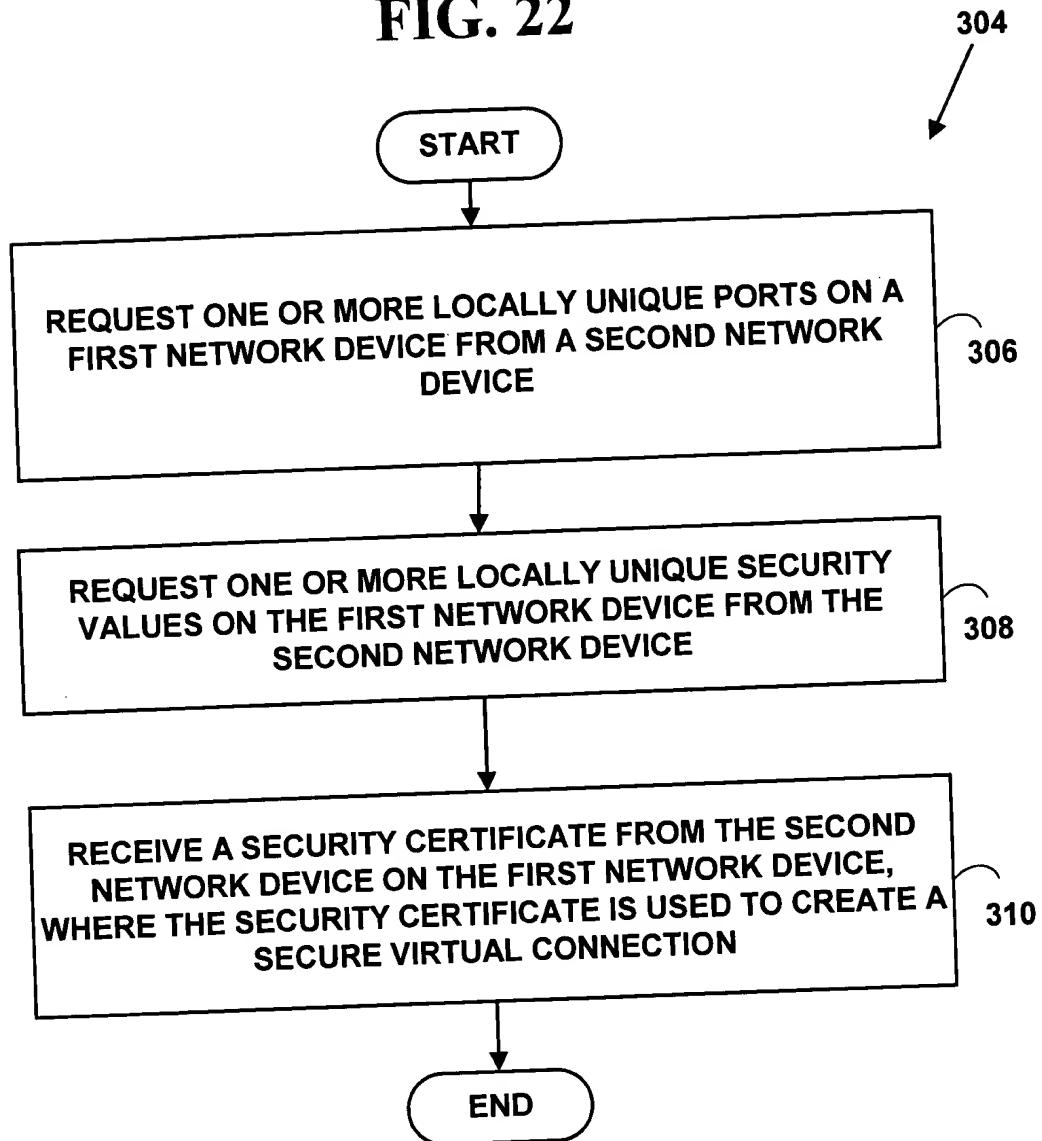


FIG. 23

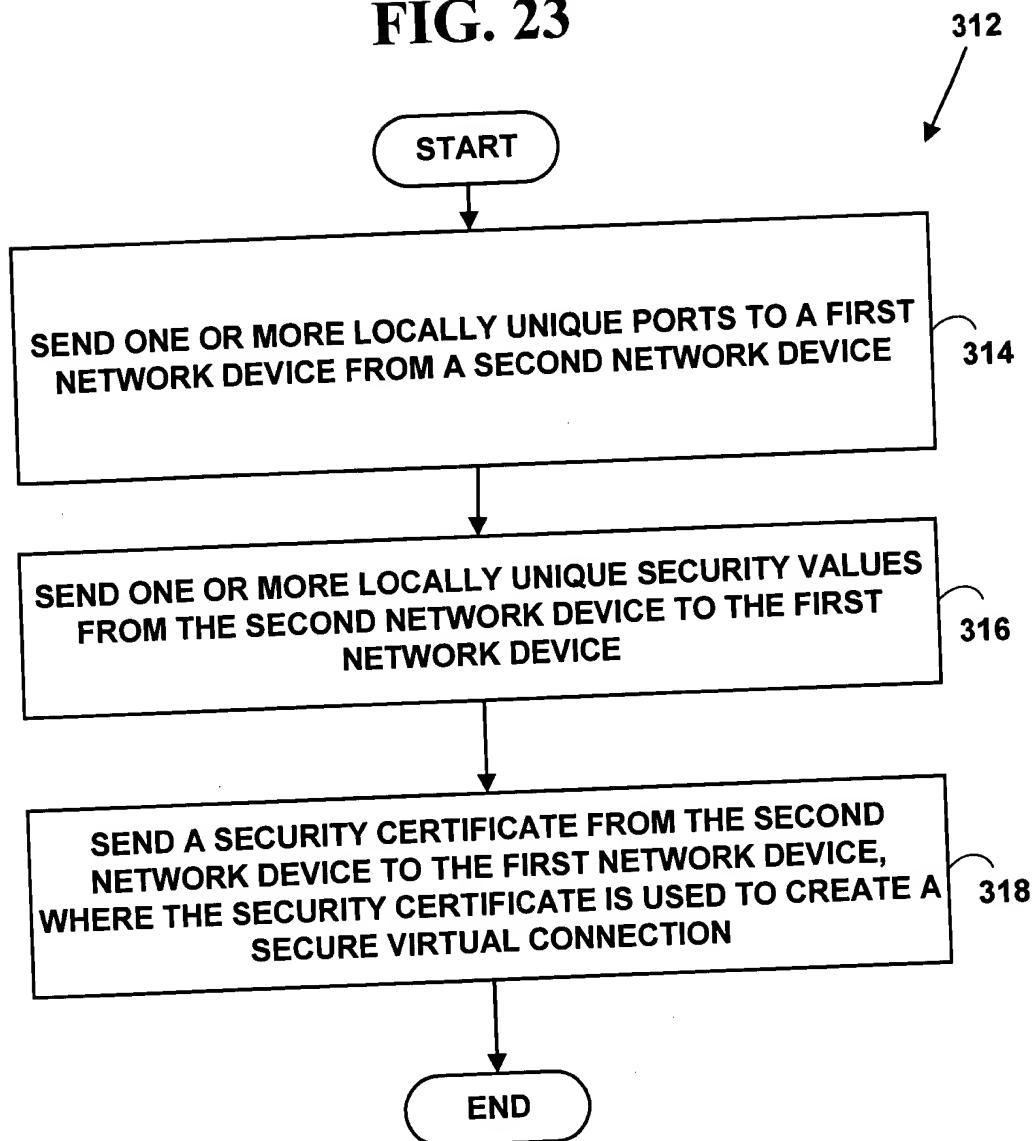


FIG. 24

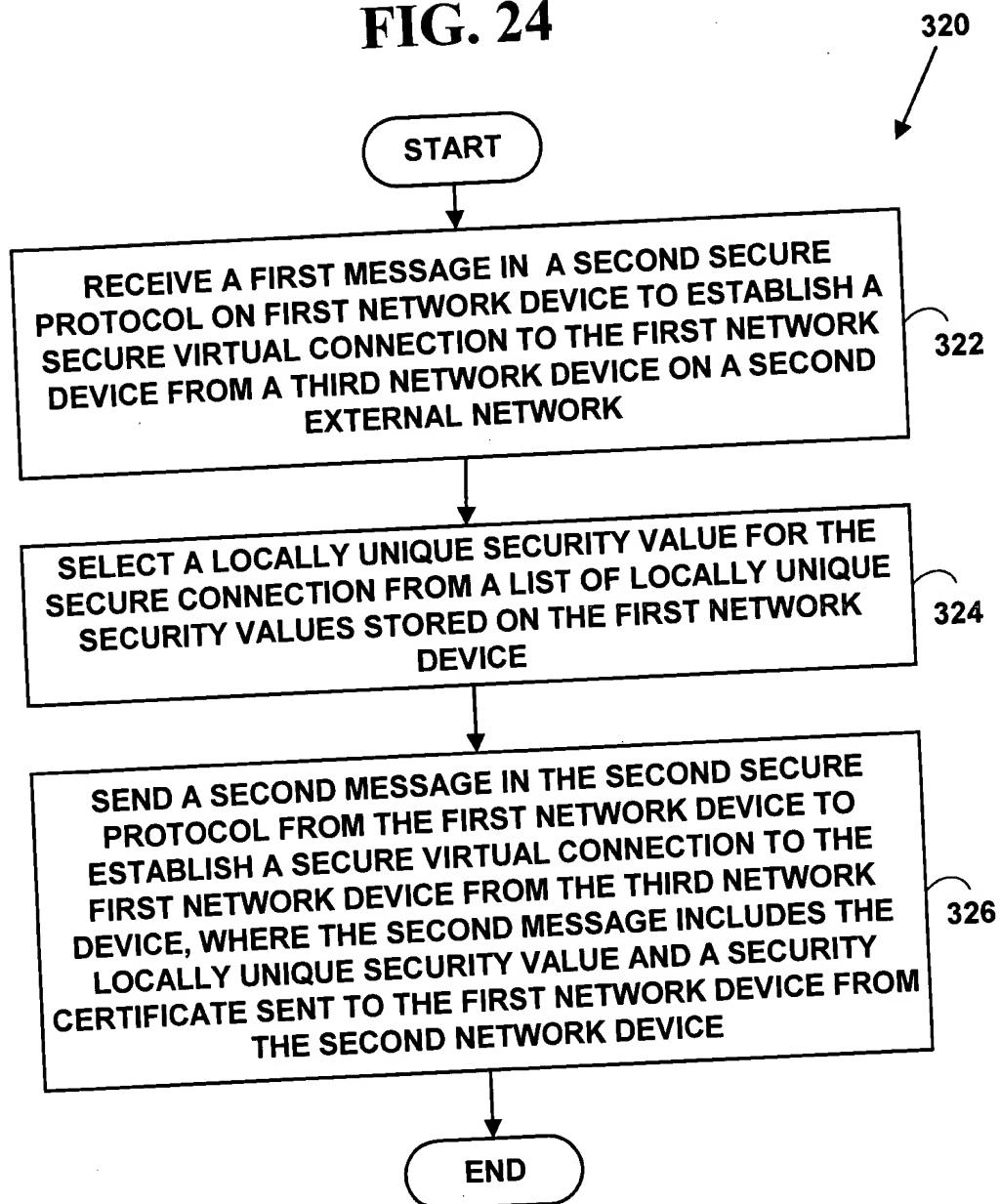


FIG. 25

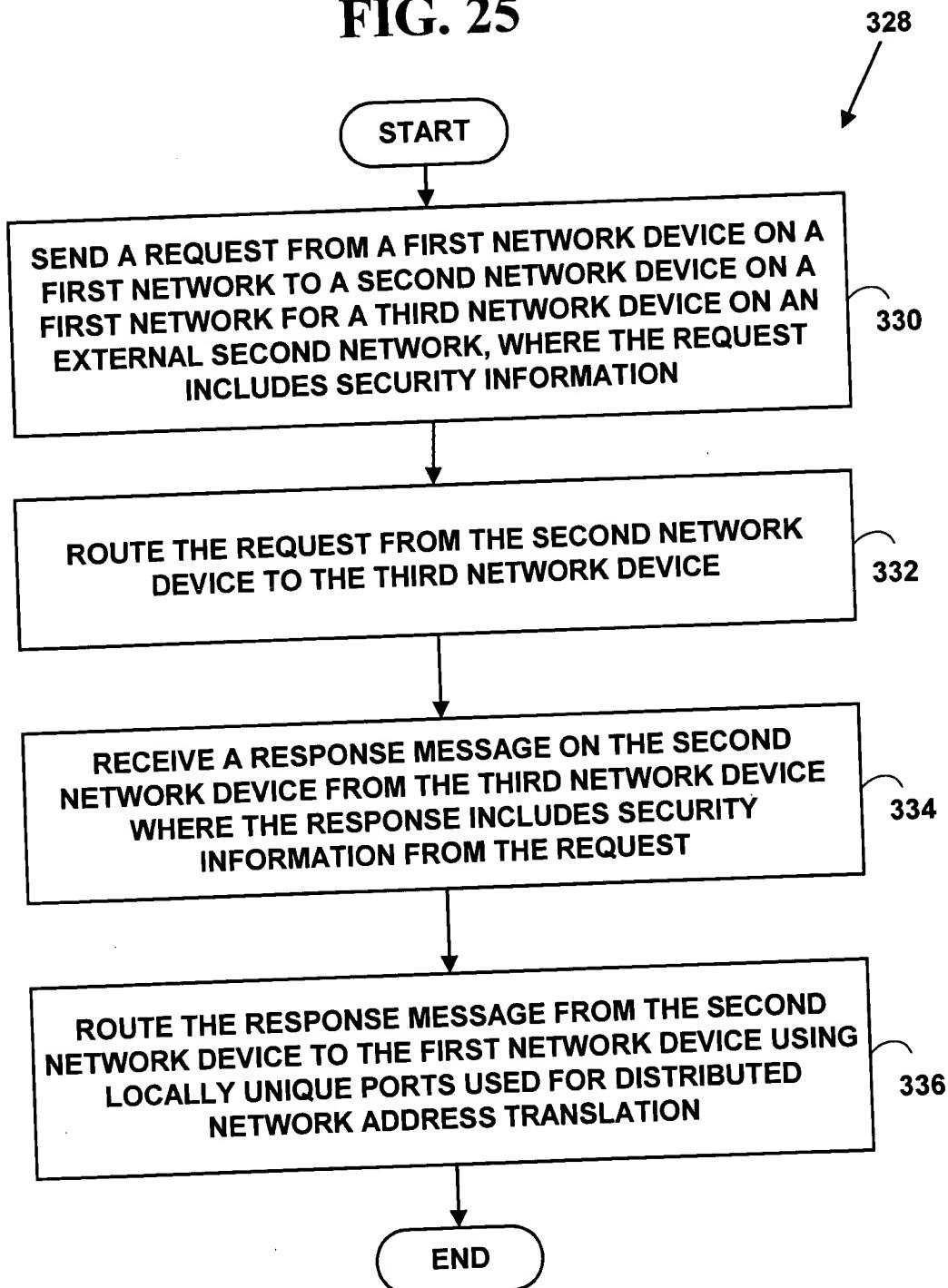


FIG. 26

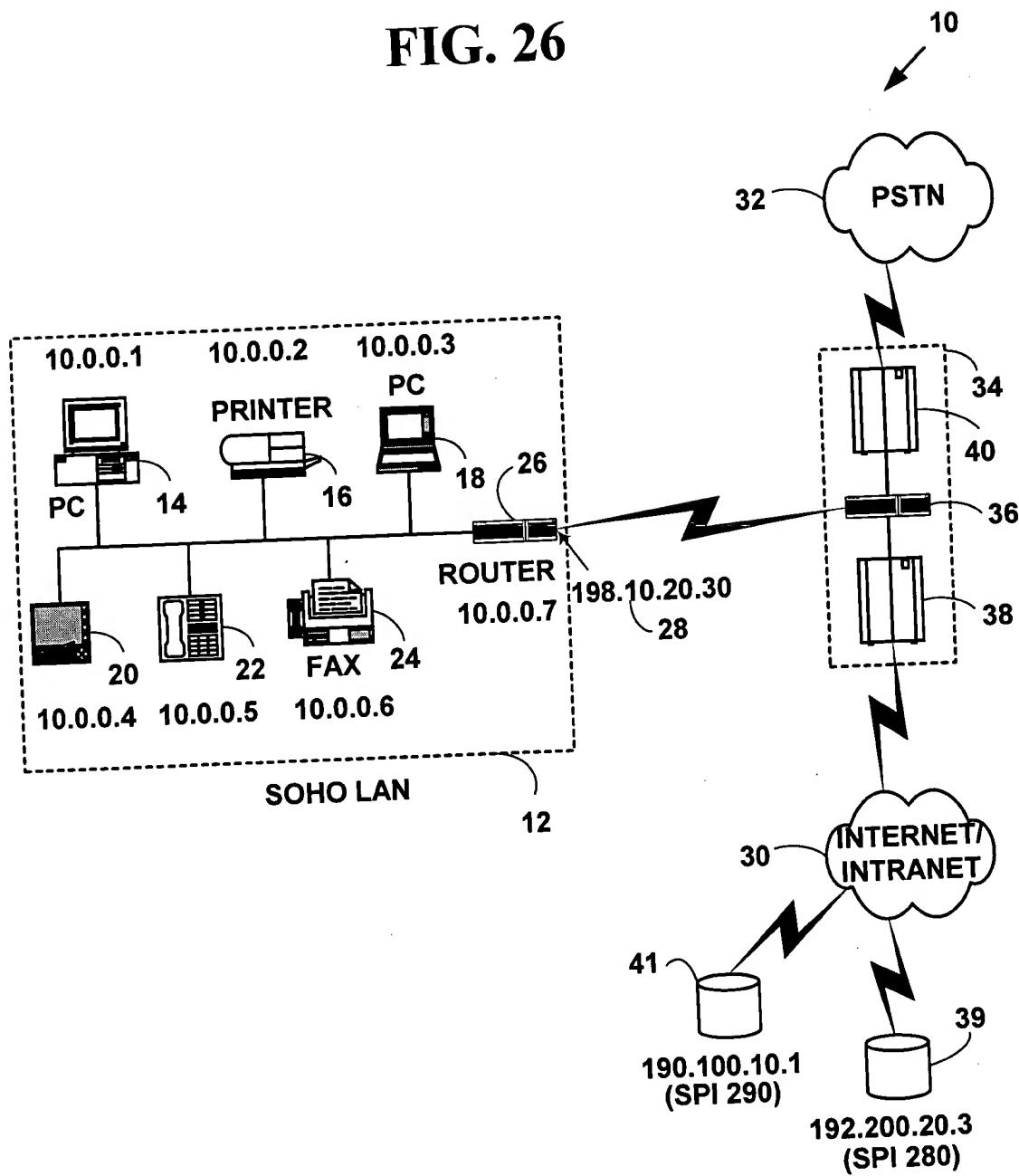
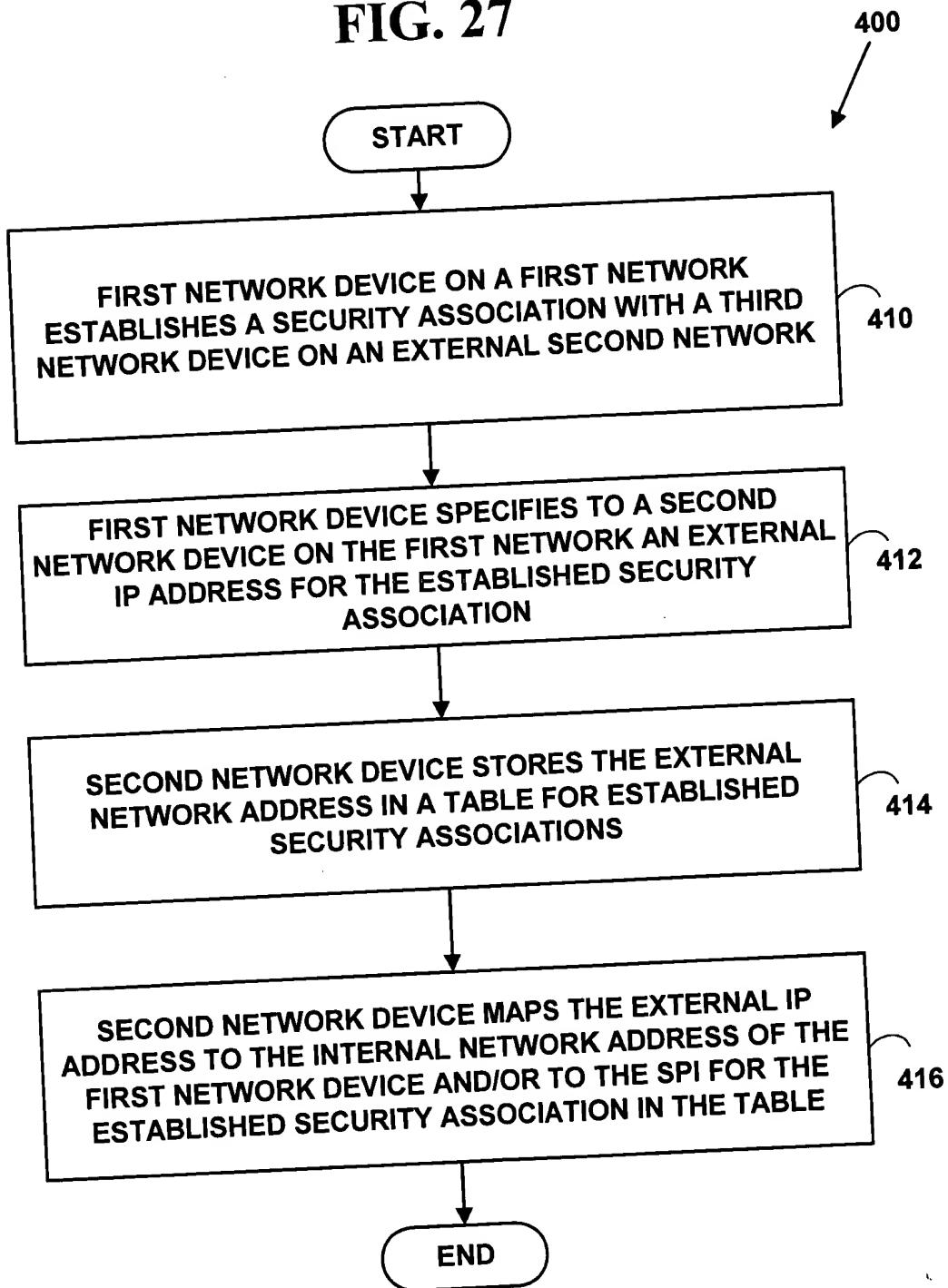
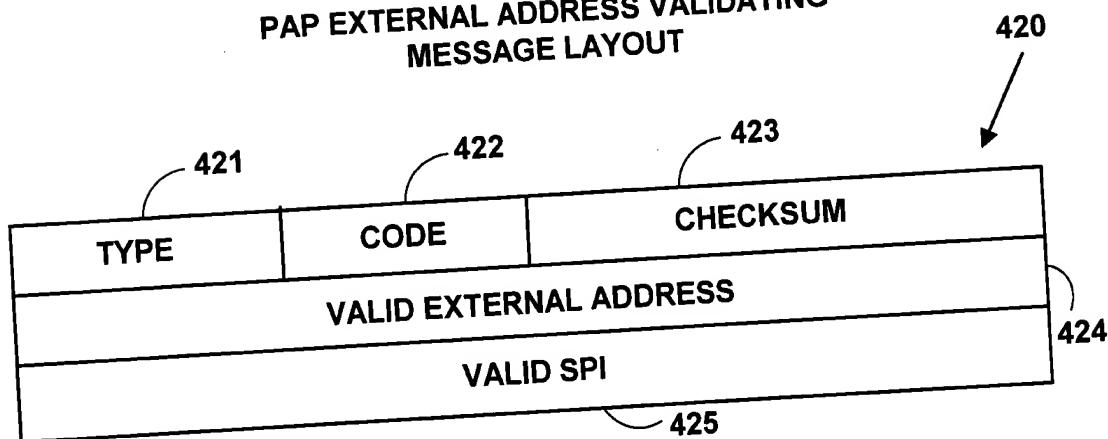


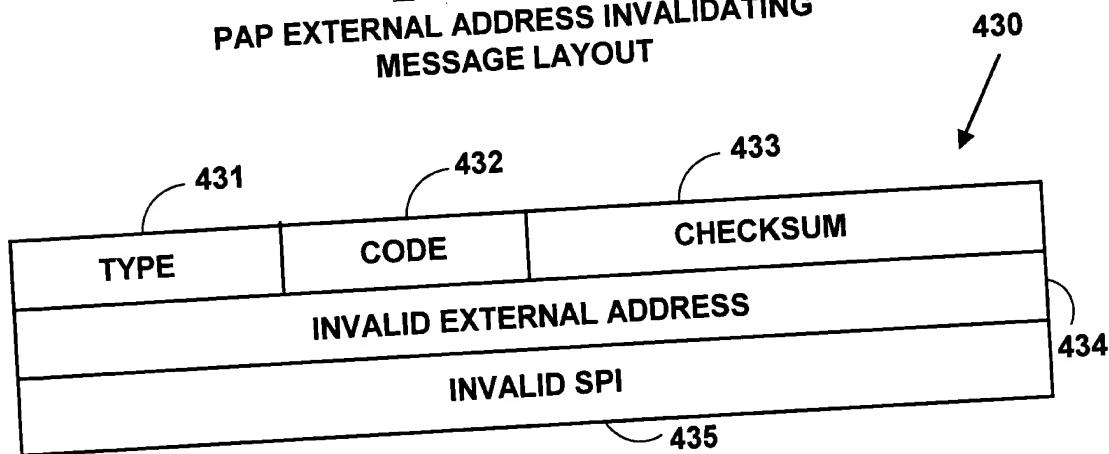
FIG. 27



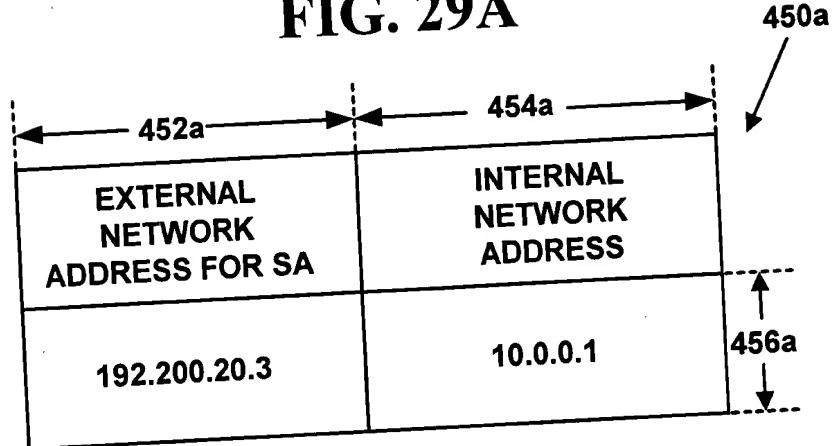
**FIG. 28A**  
PAP EXTERNAL ADDRESS VALIDATING  
MESSAGE LAYOUT



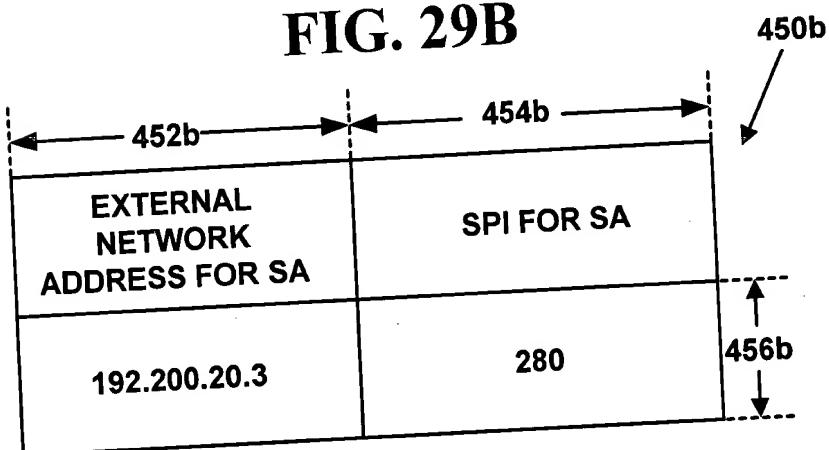
**FIG. 28B**  
PAP EXTERNAL ADDRESS INVALIDATING  
MESSAGE LAYOUT



**FIG. 29A**



**FIG. 29B**



**FIG. 29C**

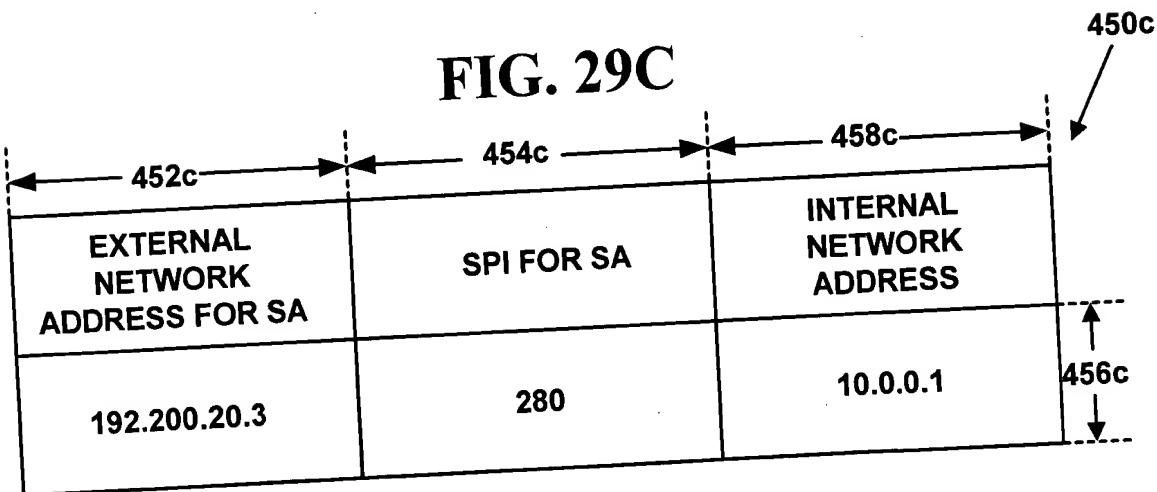


FIG. 30

